

**LSR GUI:
Local Storm Report
Graphical User Interface**

Guide for Users

VERSION OB1

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Introduction

The Local Storm Report (LSR) Graphical User Interface (GUI) is a stand-alone AWIPS application designed to provide forecasters with an easy and quick way to create, manage, and send the LSR public text product. This text product contains noteworthy weather events for which the forecaster has either received or sought out real-time observations.

NOTE: The format of the LSR text product will be changing in December, 2002. This LSR GUI will provide the old LSR event format until the time of the transition is encountered. You do not have to worry about which format to use! See Appendix A for the new event format and an example LSR product in its new format.

Running the LSR GUI

Currently, the LSR GUI is accessible via the desktop menu or the command line (“lsr.tcl”) on graphics workstations and text workstations.

The LSR GUI Basics

When the LSR GUI starts, it loads various initialization data and will present a small Loading Window. This window will inform you what the LSR GUI is doing to prepare for the session.

During this loading phase, various data is being ingested.

- ▶ City data: The first time the LSR GUI is started, it will read the CitiesInfo.txt and LocalCitiesInfo.txt files and create an LSRcities.txt file. Upon subsequent loads, only the LSRcities.txt file will be read. If either the CitiesInfo.txt or the LocalCitiesInfo.txt files are changed after the LSR GUI has first loaded, there is a button on the Configuration page of the GUI that allows you to re-construct the LSRcities.txt file. (See the Tabs: Configurations section below.)
- ▶ Spotter data: When searching for the spotters.dat text file, the LSR GUI will first look in the customFiles directory, then in the nationalData directory. When this file gets re-written (see the Spotter Tab section below), a copy will be placed in both of these locations.
- ▶ LSR inventory: The LSR Informix data base (not the textdb data base) will be read to acquire an inventory of saved and transmitted LSRs. This also purges LSRs from the data base that are older than 90 days.
- ▶ You will be asked for your identity. You may either enter your name or initials, whatever you would like to appear in the LSR text product itself. The identity of the user who

launched the LSR GUI will be visible just next to the Practice toggle in the upper right corner of the GUI (see the Top Section below). This will not change throughout the session. The Name entry in the “Create / Edit Event” page (see the Create / Edit Event tab section below) will start off with this same identity, but may change either by user input or by whatever was saved with a specific event, then retrieved for editing.

Once the initialization is complete (this takes only a handful of seconds), the LSR GUI will appear. There are 3 sections to the GUI: Top, Tab, and Bottom sections. The Tab section, in turn, consists of several tabs or pages. All three sections and the various tabs are described in detail below.

The LSR GUI Basic Sections:

The Top Section

Exit Button

Left-clicking the “Exit” Button will close the LSR GUI and shut the process down. You may also do this by closing the window using the window frame.

Practice Toggle

Left-clicking the “Practice” selection toggles the LSR practice mode on/off.

While in practice mode:

- ▶ The appearance of the GUI will change to signify that the practice mode is active.
- ▶ Any events created will be internally flagged as practice by the software and will not be included in any *non-practice* operations. (See various other descriptions below.)
- ▶ Any official LSRs saved or transmitted by the GUI will be flagged as practice LSRs by the software, will be noted as such in the header text, and will not actually be transmitted, but only saved to the AWIPS textdb data base.

The Bottom Section

Status Bar

The Status Bar informs you when something significant has happened. When a new message appears in the Status Bar, it will blink for a couple of seconds. Messages that appear in the Status Bar are usually confirmations of successful operations (ie: event saved, LSR transmitted, etc) but may also contain some error information. Most error information will be presented in a separate pop-up window.

Exit Button

Left-clicking this second “Exit” Button will close the LSR GUI and shut the process down. (This is the same as the Exit button in the Top Section.).

The Tab Section

NOTE on keyboard navigation: You can use the Tab key to move from one widget to the next or use the Cntrl-Tab keys to move from one widget to the previous. You can use the space bar to ‘select’ the widget that currently has the focus. The arrow keys will move up and down in a given list box. This keyboard navigation has been implemented for all but the Configurations tab.

NOTE: You can set session defaults for any list by right-clicking on the list element you want to be the default. When the page is cleared (see below), the list will revert to the default selection. These defaults will be reset for each new LSR GUI session.

Create / Edit Event

(See Figure 1.)

Left-clicking the “Create / Edit Event” tab raises the portion of the LSR GUI that handles event data entry and editing. On this page there are four sub-sections, each with various widgets:

- ☞ Basics
 - ▶ Date The ‘Date’ widgets consist of separate entry widgets for month, day, and year, in the format *mm/dd/yyyy*.
 - ▶ Time The ‘Time’ widgets consist of separate entry widgets for hour and minute in the format *hh/mm*.
 - ▶ Meridian The Meridian section tells you what the time zone of your WFO is and allows you to choose between AM, PM, and a 24-hour clock time. Note that the time zone displayed by this menu button is the time zone of the WFO, **not the event**, and will not change (except for daylight savings)!
 - ▶ Set Current Time Left-clicking the “Set Current Time” button will fill all of the above time widgets with the proper information for the current system time. If AM or PM is chosen, a 12-hour time will be chosen, with the correct meridian.
 - ▶ Initials Provides an entry widget to enter either your name or your initials. This value will be saved with the rest of the event data, but the identity that will be added to the text of the LSR product itself will be the identity entered upon start-

up. It is possible for an event to have been saved by one user, then saved/transmitted later by another user.

- ▶ Source Provides a listbox of accepted sources for any LSR event. Left-click the arrow to get the list and left-click the item in the list you wish to select. If the cursor moves out of the list, the list will disappear. See Appendix B for a list of currently accepted sources.
NOTE: If the “TRAINED SPOTTER” source is chosen, an additional widget will appear which allows for a spotter name to be typed in. The search method for spotters is the same as the search method described below for cities - as text is typed, a best match will be found and displayed, if possible. When a match is found the software will attempt to fill in the entire “Location” section below with the spotter’s location information. Currently, this method is only implemented for spotters, but may be implemented for other statically located sources in the future, such as buoys.

↳ Location of Event

- ▶ Reference City As you type in a city name, the software will convert the letter to upper case if needed and retrieve its first guess. Once your desired city appears in the text, you do not need to enter any more text. Once a city appears in the text (after your first typed character) you may use the up and down keys on the keyboard to move up and down the city list in memory. The next or previous city in that list will appear on screen. If there exists more than one city in the list with the same name (but different state), you will see the words “Duplicate City Name” appear above the entry. To access other cities of the same name, use the up and down keys as described above.
- ▶ Direction from City Contains a list of 16 standard cardinal directions as well as a “NONE” selection. Access the list by left-clicking the arrow button.
NOTE: You can choose a direction without a distance to refer to a section of a large city.
- ▶ Distance from City This is an entry widget for entering the number of miles the event is from the city referenced. If the direction is “NONE”, then a non-zero numeric value is not allowed here.

NOTE: As direction and distance are changed, the county and state may change. **The county and state will always describe the location of the event - not the location of the reference city.** If the event did not occur in a county, then the city and county will contain “X”s.

- ▶ *County of event* *Automatically determined by the location of the event based on the reference city, direction, and distance.*
- ▶ *State of event* *Automatically determined by the location of the event based on the reference city, direction, and distance.*
- ⇒ EventInfo
 - ▶ Weather Event Provides a listbox of accepted weather events. Left-click the arrow to get the list and left-click the item in the list you wish to select. If the cursor moves out of the list, the list will disappear. See Appendix C for a list of currently accepted weather events.
 - ▶ Magnitude If the event chosen requires a magnitude, several widgets will appear below and to the side of the Weather Event widget. These new widgets handle accuracy, units, and values.
 - The Accuracy section contains 3 selectable radiobuttons: “Estimated”, “Measured”, “Unknown”. Although the accuracy information does not appear in the LSR text product itself, it is stored with the rest of the weather event information and is retrievable. (See the Event Log page.)
 - The Units widget tells you what the units of the magnitude value are.
 - If the event has a pre-defined list of possible values (such as HAIL or TORNADO), the value selection widget will be a listbox of those values, which behaves just like the listboxes for event types and sources. If there is no pre-defined values list, this value selection widget will be a simple entry widget.
 - ▶ Remarks Add your text comments in this section. The words will wrap to accommodate the 69 character limit of NWS text products. Don’t worry about case - all text will be converted to upper case when necessary.

| | | |
|---|----------------|--|
| ▶ | Fatalities | A simple entry widget to enter the number of fatalities associated with the weather event. |
| ▶ | Injuries | A simple entry widget to enter the number of injuries associated with the weather event. |
| ☞ | Actions | |
| ▶ | Save Event | Left-clicking the “Save Event” button will save the data entered in the Basics, Location, and EventInfo sub-sections into the LSR data base (not the textdb database). Such saved events can be retrieved for review, preview, transmission, and editing via the Event Log page (see below). All entered values are checked before saving. If a widget contains an unacceptable value, an error message will appear. Click the “OK” in the error message box and fix the value that was noted. |
| ▶ | Save & Preview | Left-clicking the “Save Event and Preview for Transmission” button will produce the Preview window (see below), from which you can transmit the official LSR text product. In this case, the previewed LSR will only contain the one event just entered. |
| ▶ | Clear | Left-clicking the “Clear Event info” button will clear all widgets and return the time widgets back to the last saved event time. If you want the time to update, just left-click the ‘Set Current Time’ button. |

REMEMBER:

- The “Create / Edit Event” page behaves the same, whether the practice toggle is on or off.
- Successful save messages will be shown in the Status Bar.
- All event values are quality controlled just before saving. Some values may get automatically updated as you enter event data, depending on where the cursor is, such as the time widgets and the county and state.

Event Log

(See Figure 2.)

Left-clicking the “Event Log” tab raises the portion of the LSR GUI that handles retrieving weather events into a listed form ranked from most recent to oldest. This event list, or log, allows you to edit previously saved events and to transmit an LSR with more than one event. On this page there are three sections:

- ☞ Search By
- ▶ Time Duration

If you want to see all of the weather events in the LSR data base (not textdb data base) from the current time back into the past a number of hours, enter that number of hours in the entry widget provided.
 - ▶ Time Range

If you want to see all of the weather events in the LSR data base (not textdb data base) for a certain time range, enter the time range in the widgets provided. Make sure that the format of what you enter is correct (*mm/dd/yy* and *hh:mm*). If the format is not correct, you will not get any events in your list.
 - ▶ LSR

If you want to see a list of events that are associated to a previously saved or transmitted LSR product left-click this selection. This provides a list of the LSRs saved in the LSR data base (not the textdb data base). The LSRs are listed by time of save/update or transmit, like an inventory. This listbox behaves like other listboxes in the LSR GUI.
 - ▶ Fetch Events

Left-click this button when you want to retrieve the weather events and display them on the screen, based on the criteria you entered in the widgets above. This will fill the event list (below) with formatted events for the given criteria.

NOTE: If you fetch according to LSR, you will see the words “Active LSR” appear below the ‘Practice’ toggle. This is intended to remind you that the software thinks you are managing a specific LSR. If you try to save the LSR when the “Active LSR” is visible, you will be overwriting the Active LSR, not creating a new LSR. To get rid of the “Active LSR”, just click the Clear button (see below).
- ☞ Event List
- ▶ Event List

The event list (or event log) can be used to edit, delete, and transmit LSR events. The text of the event will have a color-coded background (see the Legend section below).

 - **Delete:** To delete an event from memory and the LSR data base (not the textdb data base), left-click on the “Delete” button for the event to be deleted. You cannot delete a selected or previously transmitted event.
 - **Edit:** To edit an event, left-click the “Edit” button for the event to be edited. This will send all of the

event information to the “Create / Edit Event” page where you can edit the items as you see fit. When you successfully save an edited event, you will be brought back to the Event Log page.

NOTE: You are not allowed to ‘Save and Preview’ while Editing an event. If you try this, the event will be saved, but you will just go back to the Event Log page and a text pop-up will inform you of the situation.

- **Select:** You Can select and de-select individual events by left-clicking on the event text itself. For those events selected, you can either print or transmit them (see below).

- ▶ (De)Select All You can select or de-select all events in your log by left-clicking this button. You can select or de-select all events that have not yet been transmitted and that have been edited after transmission by right-clicking this button.

☞ Action & Legend

- ▶ Preview Left-clicking the “Preview Selected Events for Transmission” button will produce the Preview window (see below) with the selected events in it, from which you can transmit the official LSR text product.
- ▶ Clear Left-clicking the “Clear Display” button will clear the event log of events and set any fetch parameters entered in the widgets at the top of the page back to default values.
- ▶ Print All Left-clicking this button will send all of the listed formatted events to the default printer.
- ▶ Print Selected Left-clicking this button will send all of the selected formatted events to the default printer.
- ▶ Color Legend The background of the text of each event in the event log will be color coded according to its status.
 - grey The event has been saved to the data base, but not yet transmitted.
 - white The event has been selected.
 - light blue The event has already been transmitted in an official LSR.
 - light yellow The event has already been transmitted in an official LSR, but

has been edited since that transmission and has yet to be re-transmitted in a corrective LSR.

Spotter

(See Figure 3.)

The Spotter page can be used to manage your spotter location records. This portion of the LSR GUI reads and writes the `spotters.dat` file, which is already in use by AWIPS and the D2D and can re-construct the `spotters.nc` file, which is required for the D2D to display the spotter records correctly. There are two main sections to this page.

- Add Spotter
 - There are seven entry widgets for the location information for the a new spotter. All values are accepted by these widgets, except latitude and longitude, that are constrained to within +/- 90 and +/- 180 respectively.
NOTE: For the western hemisphere, longitudes are negative. If a positive longitude is entered, you will be asked to confirm the hemisphere.
- Recall Spotter
 - ▶ Search by ID
 - To find a spotter record by its ID, enter the spotter's identifier here. The search mechanism here is the same as for the City and Spotter search on the "Create / Edit Event" page.
 - ▶ Search by Name
 - To find a spotter record by its name, enter the name here. The search mechanism here is the same as for the City and Spotter search on the "Create / Edit Event" page. **If** your convention is to use "*Last, First*", then what you enter must be "*Last, First*". Once a match is found, the remaining widgets will be filled with data.
 - ▶ Search by Phone #
 - To find a spotter record by its phone number, enter the spotter's phone number here. The search mechanism here is the same as for the City and Spotter search on the "Create / Edit Event" page. **If** your convention is to use area codes, parentheses, and/r dashes, then what you enter must contain those characters. Once a match is found, the remaining widgets will be filled with data.
 - ▶ Remove
 - Left-clicking the "Remove" button will remove the matched spotter record from memory and the `spotters.dat`

file. You will be asked to confirm.

- ▶ Save Left-clicking the “Save Edition” button will replace the matched spotter record in memory and in the `spotters.dat` file with a spotter record with the new, updated data. You will be asked to confirm.
- ▶ Clear Left-clicking the “Clear” button will clear the widgets.

NOTE: Upon saving a new spotter record, editing an existing spotter record, or deleting a spotter record, you will be asked whether you want the `spotters.dat` file to be re-written.

NOTE: Both the Add and Recall sections have a “Update Spotter Display Data” button. When left-clicked, this button will re-construct the `spotters.nc` file for all identified workstations! This may take a number of seconds. Still, if you wish the D2D spotter displays to be updated, you must stop and re-start the D2D after the LSR GUI has updated the spotter display data.

Configurations

(See Figure 4.)

This page allows you to change some of the foundation and configuration of the LSR GUI. Currently, there are two main functions that exist on this page:

- ➞ Construct City List When you left-click the “Construct City” button, the city list the LSR GUI uses gets re-created. The cities in the `CitiesInfo.txt` and `LocalCitiesInfo.txt` files will be re-ingested and the `LSRcities.txt` file will be re-created. This may take a few seconds.
- ➞ Trim Lists
 - ▶ Trim Event List Select any of the items that appear in the list by left-clicking the item. Left-clicking an already selected item will deselect it. Left-clicking the button below the list will trim the event list you see on the Create/Edit page, thus removing unwanted events (i.e. marine events for a land-locked CWA).
 - ▶ Trim Source List Select any of the items that appear in the list by left-clicking the item. Left-clicking an already selected item will deselect it. Left-clicking the button below the list will trim the source list you see on the Create/Edit page.

The Preview Window

(See Figure 5.)

Correction

If one or more of the events listed in the Preview Window have previously been transmitted, you will see a pop-up window informing you that the LSR you are previewing has the word “CORRECTION” in the header, and thus is a Correction LSR (as opposed to a normal LSR).

NOTE: If the Practice toggle is on, the words “PRACTICE PRODUCT” will appear in the header text of the LSR.

LSR Text

What appears in this text window will be *exactly* what is transmitted, *except* for the transmission information in the header (CCCNXX AAA and TTAAii lines), which will be added upon transmission.

Action Buttons





- | | |
|-----------------|---|
| ☞ Save | Left-clicking the “Save, but Do Not Transmit” button will save the LSR to the LSR data base (not the textdb data base) and close the preview window. If this LSR has been saved previously, it will be overwritten. NOTE: When the LSR is saved, you will see the words “Active LSR” below the Practice toggle. This behaves as discussed above in the Event Log: Fetch Events section. |
| ☞ Transmit | Left-clicking the “Save & Transmit” button will save the official LSR product (as above) and transmit it. If the GUI is in Practice mode, ‘transmission’ means the LSR product will only be saved to the textdb. If not in Practice mode, it means it will be saved to the textdb and transmitted over the WAN. Also, when a product is transmitted, whether in practice mode or not, abbreviated event data will be saved to an hourly, time-stamped netCDF file for display in the D2D. The menu selection on the D2D is under the Surface menu. |
| ☞ Print | Left-clicking the “Print” button will send the formatted LSR as it appears in this preview window to the default printer. |
| ☞ Add Free Text | The new format of the LSR product allows for a free text |

segment, which has no set format. Any characters allowed in an official NWS text product can appear below the “&&” line. To add or edit the free text, left-click the “Add/Edit Free Text” button. This will cause the preview window to be extended, providing you with a text entry widget and an “OK” or “Cancel” button combination. Left-click the “OK” button to accept the text as free text. Left-click the “Cancel” button to cancel any *changes* made in the text entry widget. To remove free text completely, you must edit it and remove it with the delete keys on the keyboard. **NOTE:** The old LSR format does not allow for a free text section. The GUI will still allow you to enter free text and will store it in the data base, but this free text will not be transmitted or be visible in the Preview window.

 Close

Left-clicking the “Close:Do NOT Save or Transmit” button will simply close the Preview window without saving or transmitting the LSR product.

What’s New in OB1?

-  You can now search for spotters on the Spotter page by phone number and identifier, as well as name.
-  You can now trim the event type and event source lists from the Configuration page. Those items trimmed will not appear in the lists on the Create/Edit page.
-  The section titles on the Create/Edit page are more easily distinguished from other actionable widgets.
-  Sampling in the LSR-Office display in the D2D now includes fatalities and injuries.

Figures

Exit **Acknowledgments** mtf ☐ Practice Session

Create / Edit Event Event Log Spotter Configurations

Basics

Date of Event: 01 / 24 / 20 03 Initials : mtf
(mm/dd/yyyy) (or Name)
Time of Event: 17 : 21 EST (24hour time)
Set Current Time Source of the report: TRAINED SPOTTER
Spotter Name: TOM FILIAGGI

Location of Event Duplicate City Name

Reference City: PORTSMOUTH County of Event: GREENUP
Direction from City: SE
Distance from City: 5 Miles State of Event: KY

Event Info

Weather event: HAIL Magnitude: 1 (QUARTER)
Accuracy: ☒ Estimated ☐ Measured ☐ Unknown Units: IN
Remarks: REMARKS GO THERE.
Fatalities: 0 Injuries: 2

Actions

Save Event Save Event and Preview for Transmission Clear Event Info

Status Messages: Fri Jan 24 17:51 EST: Event successfully saved. **Exit**

Figure 1 The 'Create / Edit Event' page. This is where the LSR weather event data is entered by the forecaster.

Exit

Acknowledgments

mtf

Practice Session

Create / Edit Event

Event Log

Spotter

Configurations

Search by:

Time Duration: From Hrs in the past to Now

Time Range

LSR Identifier: Time of Save or Transmit

Enter Duration: 1 (hours)

Fetch Events

Select All

| | | | | | |
|---------------------|----------------------------|----|--|-----|------|
| 0547 PM 01/24/03 | 5 NE GAMBIER KNOX | OH | FUNNEL CLOUD FUNNEL SPOTTED OVER NE PORTION OF CITY. | Del | Edit |
| 0521 PM 01/24/03 | 4 NNW FOLCROFT DELAWARE | PA | 45 MPH TSTORM WIND *** 1 FATAL, 2 INJ *** TREE LIMBS DOWN. POWER OUTAGES. | Del | Edit |
| 0521 PM 01/24/03 | 5 SE PORTSMOUTH GREENUP | KY | 1.00 IN HAIL *** 2 INJ *** REMARKS GO THERE. | Del | Edit |

Preview Selected Events for Transmission

Clear Display

Print All Events

Print Selected Events

Saved but Not Transmitted

Selected for Transmission

Already Transmitted

Edited After Transmission

Status Messages: Fri Jan 24 17:51 EST: Event successfully saved.

Exit

Figure 2 The ‘Event Log’ page. This is where previously created events can be listed, edited, and transmitted.

Exit

Acknowledgments

mtf

Practice Session

Create / Edit Event

Event Log

Spotter

Configurations

Add

Identifier: LYX001

Phone Number: (301)713-0056 x 159

Name: Lingyan Xin

Latitude: 35.8

Address: 1325 East-West Hwy

Longitude: -76.5

City, State: Silver Spring, MD

Add

Clear

Update Spotter Display Data

Recall

SEARCH by ID:

SEARCH by Phone #:

SEARCH by Name:

Latitude:

Address:

Longitude:

City, State:

Save Edition

Remove

Clear

Edit

Update Spotter Display Data

Status Messages: Fri Jan 24 17:58 EST: New spotter record added successfully.

Exit

Figure 3 This is the Spotter tab, where spotter records can be added (as shown) or recalled for editing or removal.

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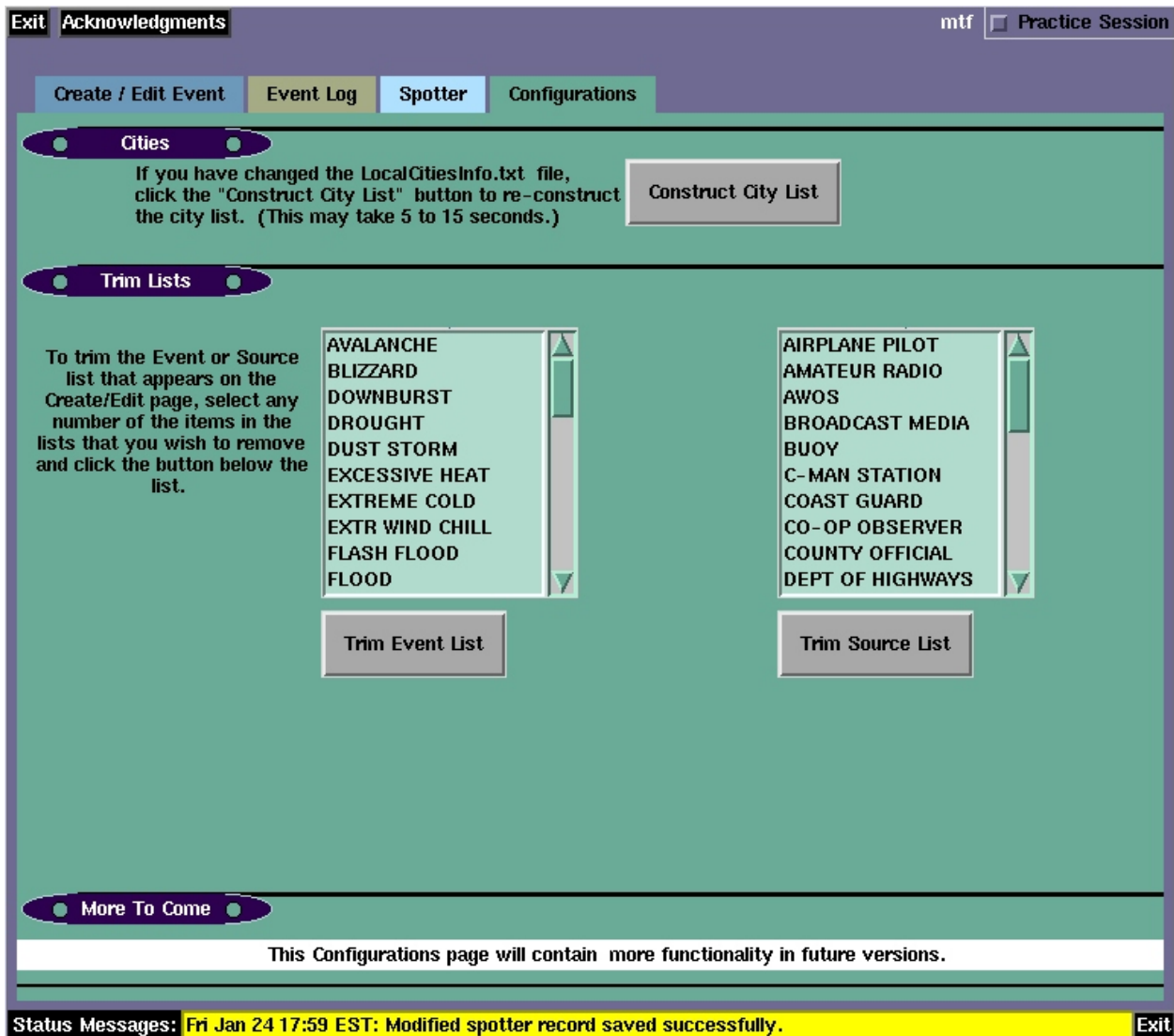


Figure 4 This is the Configuration tab where you can re-construct the city list the LSR GUI uses. More will be added here in future versions of the LSR GUI.

PRELIMINARY LOCAL STORM REPORT : CORRECTION
NATIONAL WEATHER SERVICE BALTIMORE-WASHINGTON
0155 PM EST FRI JAN 24 2003

| TIME(EST) | CITY LOCATION | STATE | EVENT/REMARKS |
|---------------------|-------------------------------|-------|--|
| 0122 PM 01/24/03 | 4 NNW FOLCROFT DELAWARE | PA | 45 MPH TSTORM WIND *** 1 FATAL, 2 INJ *** TREE LIMBS DOWN. POWER OUTAGES. |
| 0122 PM 01/24/03 | 5 SE PORTSMOUTH CHESAPEAKE | VA | 1.00 IN HAIL *** 2 INJ *** REMARKS GO THERE. |

MTF

Save,
but Do
NOT Transmit

Save &
Transmit

Print

Add/Edit
Free Text

Close:
Do NOT
Save or Transmit

Figure 5 The 'Preview' page. This is where the final inspection of the LSR product occurs and where transmission actually gets executed.

Help

To report problems or ask questions concerning the operation of the LSR GUI, please contact Tom Filiaggi at (303) 497-6578 or email at Tom.Filiaggi@noaa.gov or use the awipsinfo list server.

Appendices

Appendix A: Example of new event format: Character position (Limit is 69. The “|” will appear as blank space in format):

```

1      2      3      4      5      6
12345678901234567890123456789012345678901234567890123456789
xxx = unused space

```

Current format (WSOM C40):

```

hhmm qM |x|DIST DIR CITY          |ST|x|MAG UNITS EVENT          |
MM/DD/YY|x|COUNTY                |xxxx|*** # DEAD, # INJ ***    |
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx|REMARKS          |
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx| . . . . .

```

New Format (as of December 16, 2003):

```

hhmm qM|xxx|EVENT                  |DIST DIR CITY                |LL.LLd LLL.LLd|x|
MM/DD/YYYY| |MAG UNIT              |xx|COUNTY                  |ST|x|SOURCE          |
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx|
xxxxxxxxxxxx|*** # FATAL, # INJ *** REMARKS
xxxxxxxxxxxx| . . . . .

```

| Item | Description | Example | Chars | Length |
|------------|--|--|--------------|------------------|
| EVENT | weather event, with preceding “#” character | HAIL, TORNADO, WIND GUST | 1:13-27 | 15 |
| MAG | magnitude value with units | 3.0, F4, 50 | 1:13-24 | 12 |
| UNIT | units of the magnitude value | INCHES, MPH | | |
| DIST | distance from city | 10 | 1:29-52 | 24 (ala 17) |
| DIR | direction from city | NW | | |
| CITY | city name (obtained from list) | NECHE | | |
| LL.LLd | latitude to 2 decimals and direction | 38.31N | 1:54-57 | 14 |
| LLL.LLd | longitude to 2 decimals and direction | 104.92W | | |
| MM/DD/YYYY | date: month / day / year(4 digit) | 08/22/2001 | 2:1-10 | 10 |
| hhmm qM | time: hour minute with am/pm qualifier and preceding zero if necessary | 0109 PM | 1:1-7 | 7 |
| COUNTY | county name | PEMBINA | 2:29-47 | 19 |
| ST | state abbreviation | ND | 2:49-50 | 2 |
| SOURCE | Source of the report | TRAINED SPOTTER | 2:54-69 | 16 |
| FATAL INJ | Number of fatalities and injuries, surrounded by three asterisks, separated by a comma, with spaces in between. This exists at the beginning of the remarks section. | *** 1 FATAL, 2 INJ *** *** 4 INJ *** | 4+: 13-69 | 57 (10 lines) |

Appendix B: Available event sources.

| | |
|------------------|------------------|
| AIRPLANE PILOT | MESONET |
| AMATEUR RADIO | NEWSPAPER |
| ASOS | NWS EMPLOYEE |
| AWOS | NWS STORM SURVEY |
| BROADCAST MEDIA | OFFICIAL NWS OBS |
| BUOY | OTHER FEDERAL |
| C-MAN STATION | PARK/FOREST SRVC |
| COAST GUARD | POST OFFICE |
| CO-OP OBSERVER | PUBLIC |
| COUNTY OFFICIAL | SHIP |
| DEPT OF HIGHWAYS | STORM CHASER |
| EMERGENCY MNGR | TRAINED SPOTTER |
| FIRE DEPT/RESCUE | UNKNOWN |
| INSURANCE CO | UTILITY COMPANY |
| LAW ENFORCEMENT | |

Appendix C: Available weather event types.

| | |
|-----------------|-----------------|
| AVALANCHE | HURRICANE |
| BLIZZARD | ICE STORM |
| DOWNBURST | LIGHTNING |
| DROUGHT | MARINE WINDS |
| DUST STORM | MICROBURST |
| EXCESSIVE HEAT | NON-TSTORM WIND |
| EXTREME COLD | RIP CURRENTS |
| EXTR WIND CHILL | SEICHE |
| FLASH FLOOD | SLEET |
| FOG | STORM SURGE |
| FREEZE | TORNADO |
| FUNNEL CLOUD | TROPICAL STORM |
| HAIL | TSTORM WIND |
| HEAVY RAIN | WATER SPOUT |
| HEAVY SNOW | WILDFIRE |
| HIGH ASTR TIDES | WIND DAMAGE |
| HIGH SUST WINDS | WIND GUST |